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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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June 25, 2008

The Honorable James A. Rispoli
Assistant Secretary for Environmental Management
U.S. Department of Energy
1000 Independence Ave, SW
Washington, DC 20585-0113

Dear Mr. Rispoli:

The staff of the Defense Nuclear Facilities Safety Board (Board) visited the Savannah River Site on March 31–April 3, 2008, to review the reliability and availability of selected vital safety systems in the high-level waste tank farm facilities. The Board's staff also reviewed the implementation of specific administrative controls, the contractor's system engineer program, and the safety system oversight (SSO) program of the Department of Energy-Savannah River Operations Office (DOE-SR). Based on its review of the selected VSSs, the Board's staff found the safety systems to be adequate to perform their safety functions in the near term. However, the Board's staff found weaknesses in the oversight programs for VSSs, raising questions about the future reliability of those systems. These weaknesses are detailed below:

- The DOE-SR staff includes only one qualified SSO engineer for all tank farm facilities. Overall, the program is suffering as a result of vacancies and high turnover. The situation has worsened since the Board last reported on this program in 2006.
- The qualification process for contractor system engineers at the tank farm facilities fails to provide the detailed, system-specific training required by DOE Order 420.1B, *Facility Safety*.
- System performance monitoring at the F-Area tank farm has been drastically reduced and is no longer in compliance with DOE Order 420.1B or Order 433.1A, *Maintenance Management Program for DOE Nuclear Facilities*.

The enclosed report further includes observations regarding conductivity probes and specific administrative controls. The Board's staff is concerned that certain components in the conductivity probe system may not function properly in some upset conditions. The Board's staff also identified the need for more specificity in Specific Administrative Controls to improve their implementation.

Although DOE-SR and the contractor have taken initial steps to address the deficiencies identified during the Board's visit, significant work will be required to ensure the reliable operation of safety systems in tank farm facilities. The Board notes that site managers have taken several actions to more fully comply with DOE Order 420.1B, including:

- DOE-SR approved elevating the paygrade of several SSO engineers and filling SSO vacancies as a top priority.
- The contractor issued a System Performance Monitoring Plan that defines the system performance monitoring requirements for F-Area tank farm systems that are needed for long-term operation.
- The contractor instituted a qualification process that defines the system-specific training requirements for new, existing, and reassigned system engineers. This process includes a walkdown and oral assessment to demonstrate the engineer's knowledge of the assigned system.
- The contractor formed a Liquid Waste Operations Facilities Equipment Viability Evaluation Team to address life extension issues.
- The contractor has increased senior management oversight of vital safety systems that are experiencing performance issues.

Implementation of these initial steps to resolve the identified deficiencies will be monitored by the Board.

Pursuant to 42 U.S.C. §2286b(d), the Board requests that appropriate representatives of DOE and contractor management brief the Board within 90 days of receipt of this letter on the corrective actions taken to address these issues.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. J. Eggenberger', written over a horizontal line.

A. J. Eggenberger
Chairman

c: Mr. Jeffrey M. Allison
Mr. Mark B. Whitaker, Jr.
Mr. Robert J. McMorland

Enclosure